

## THE COMPLETE ANALYSER FOR MEASURING GASES AND THE QUALITY OF YOUR PACKAGING



### BENEFITS

**Measure, audit, and optimise** your packaging process in controlled, reproducible test conditions.

**Check «easy open» packages** with a dynamic burst or resistance measurement.

**Assess the impact of a leak** on the internal atmosphere over time

**Measure and evaluate** the slightest technical changes.

**Help in creating packaging** : Materials, structure, design, etc.

## How do you perform the inerting and sealing test on your packaging at the same time ?

EXOS is easy to use and measures the gas content, the tightness and strength of the seal on all types of packaging in a single test. These three tests are conducted on the same package.

EXOS gives you complete information about the initial condition of your packaging so you can identify the expiry date or best-before date.

### EXOS measures :

- The O<sub>2</sub> and CO<sub>2</sub> content
- Leaks down to 5 µm (leak flow rate given in ml/min)
- The creep test of the packaging
- The strength of seals up to 1.4 bar

This adaptable device is suitable for laboratory and production use. EXOS measures and quantifies the essential parameters for your packaging inspections.

### FEATURES

- 6 tests with 1 device:  
**MAP (O<sub>2</sub>&CO<sub>2</sub>) + micro leaks + creep test (A&B) + seal strength**
- Meets standards  
**DIN 55508-1** : measures flow rate at constant pressure  
**ASTM F1140** : seal strength  
**ASTM F2054** : burst test
- Highest sensitivity in very low overpressure:  
**micro-leaks down to 5 µm at over 10 mbar**
- **Measures breathability**: micro-perforated films
- **Detects clogged circuits**
- **Wholly traceable**: use all data analysis possibilities via USB, Ethernet, or directly in your ERP system.
- **Remote connection and 24/7 remote maintenance**: leverage the power of connected technology.

### SCOPE OF APPLICATION

EXOS is used in the food processing, cosmetics, and pharmaceutical industries for **all types of packaging including vacuum sealed**, flexible, rigid, semi-rigid, and metal membrane sealed.

## HOW DOES IT WORK? [video link](#)



### 1. Select the programme > 2. Start the test > 3. End of the test

#### GAS ANALYSIS

Select a program. Use the retaining arm to pierce the packaging with a needle through a septum. Once the needle is in position, the test can begin.

The device takes and analyses a small amount of O2 and CO2 gases.

#### LEAK MEASUREMENT

The device measures the airflow needed to maintain a set overpressure in the packaging.

Leaks are shown metrologically in ml/min and equivalent  $\mu\text{m}$ .

#### CREEP TEST

Application of a constant test pressure to the packaging and monitoring of flow and pressure as a function of time.

#### BURST TEST

Pressure is applied to the package to measure the pressure needed to burst the package.

The compliance of the results is shown in colours compared to the preconfigured thresholds.

Remove the needle from the packaging.

## SPECIFICATIONS

### EXOS O2 OR O2&CO2 LEAK

<b>Device</b>	IP54 table analyser in aluminium and stainless steel with 7" colour touchscreen
<b>Weight and dimensions</b>	5 kg - L 340 mm x H 170 mm x D 230 mm
<b>Power supply</b>	100-250 VAC -50/60 Hz - 63 W
<b>Compressed air</b>	4 to 8 bar (dry and oil-less) filtered to 20 $\mu\text{m}$
<b>Ports</b>	1 USB 2.0 and 1 RJ45 Ethernet
<b>Features</b>	Clogged circuit detector Pump suction control Compensates for variations in atmospheric pressure Complete traceability Remote connection Analytical curves (displayed and recordable)

	O2 GAS ANALYSIS	CO2 GAS ANALYSIS
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<b>Technology</b>	Electrochemical	NDIR
<b>Precision</b>	+/- 1% relative	+/- 2% Full scale
<b>T90 response time</b>	750 ms	7 sec.
<b>Resolution</b>	+/-0,01%	0,1%
<b>Average service life</b>	18 months in air	10 years

	LEAK MEASUREMENT Standard DIN 55508-1	CREEP TEST Standard ASTM F1140	BURST TEST Standard ASTM F1140
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<b>Technology</b>	Mass flowmeter	Piezoresistive barometer	Piezoresistive barometer
<b>Precision</b>	+/- 0.8% full scale ( $\mu\text{m}$ )	+/- 0.5% full scale	+/- 0.5% full scale
<b>Resolution</b>	0.1ml/min - 1 $\mu\text{m}$	1mbar	1mbar
<b>Measurement</b>	0.1-500ml/min 5 $\mu\text{m}$ à 500 $\mu\text{m}$	200 - 500 mbar	0,2 - 1,4 bar
<b>Pressure</b>	from 10 to 500mbar	500 mbar	Up to 1.4 bar
<b>Flow</b>	4200 ml/min	4200 ml/min	Minimum 250 L/h

### OPTIONS

- 3G router + HMI Advanced
- Waterproof RJ45 Ethernet port

### ACCESSORIES

- 2.5 L buffer tank with check valve
- The flexible probe holder : holds the needle during the test.
- The calibrated leak to control the leakage measurement
- The barcode reader select faster the test program.
- The pressure regulator with filter for compressed air
- The metal detectable stylus for the touchscreen
- The can piercer to pierce metal or rigid membrane packaging
- The secured needle holder
- The needle cleaning tool

### DEVICE DELIVERED WITH

- 1 IP67 Case: 566x438x216 mm
- 1 Power supply
- 1 Stabilization tank
- 1 000 Septums leak
- 1 Flexible probe holder
- 2 Filters 0.45  $\mu\text{m}$  25mm
- 2 Stainless needles
- 2 Sampling kits
- 1 Detectable stylus
- 1 Filter regulator for compressed air
- Calibration certificate and user manual
- 1 USB key and 3G key